

**AMENDMENTS TO THE CLAIMS**

1. (Currently amended) A capillary array comprising:  
a plurality of capillaries for holding a separation medium for separating a sample;  
a detecting portion for maintaining alignment of the capillaries;  
a capillary head for bundling and holding capillaries to one end of the ~~capillaries~~; capillaries;  
and  
~~a load header provided at sample injection end portions of the capillaries, comprising;~~  
~~a load header including an insulated holder, a conductive connection plate and an insulating~~  
~~member and for supporting tubular electrodes, wherein~~  
~~the insulated holder is provided at sample injection end portions of the capillaries;~~  
~~the tubular electrodes are fixed to the insulated holder, to allow insertion of sample~~  
~~injection end portions of capillaries;~~  
[[a]] ~~the conductive connection plate electrically connected with the tubular electrodes~~  
~~has bores for insertion of the tubular electrodes, supported by the insulated holder~~  
~~and electrically connects the tubular electrodes with each other;~~  
~~an insulated holder fixed the tubular electrodes, and;~~  
~~a cover allocated at the insulated holder for insulating the connection plate;~~  
~~the insulating member covers a conductive portion including a connecting portion~~  
~~between the conductive connection plate and the tubular electrodes in collaboration~~  
~~with the insulating holder and electrically insulates the connecting portion from the~~  
~~other portions; and~~  
~~wherein the connection plate, the insulated holder and the cover the insulated holder, the~~  
~~insulating member and the tubular electrodes are substantially closely arranged~~  
~~without gaps among these elements.~~
2. (Currently amended) The capillary array according to claim 1, wherein a filling material is applied to a gap between the insulated holder and conductive connection plate ~~of the lead header~~ and/or to a gap between the conductive connection plate and [[cover]] insulating member.

3. (Currently amended) The capillary array according to claim 2, wherein the filling material includes inorganic powders or metal powders and has higher heat conductance than the air.
4. (Currently amended) The capillary array according to claim 3, wherein a conductive resin is substituted for the conductive connection plate within the load header to electrically connect the tubular electrodes with each other ~~and the holder, cover and tubular electrodes are closely arranged without allowing substantial formation of gaps.~~
5. (Currently amended) An electrophoresis apparatus comprising:  
a capillary array comprising;  
a plurality of capillaries for holding a separation medium for separating a fluorescence labeled sample;  
a detecting portion for maintaining alignment of the capillaries;  
a capillary head for bundling and holding capillaries to one end of the ~~capillarys~~  
capillaries;  
~~a load header provided at sample injection end portions of the capillaries, comprising;~~  
a load header including an insulated holder, a conductive connection plate and an insulating member and for supporting tubular electrodes, wherein  
the insulated holder is provided at sample injection end portions of the capillaries;  
the tubular electrodes are fixed to the insulated holder, to allow insertion of sample  
injection end portions of capillaries;  
~~[[a]] the conductive connection plate electrically connected with the tubular~~  
~~electrodes has bores for insertion of the tubular electrodes, supported by the~~  
~~insulated holder and electrically connects the tubular electrodes with each other;~~  
~~an insulated holder fixed the tubular electrodes, and;~~  
~~a cover allocated at the insulated holder for insulating the connection plate;~~  
~~an optical unit for irradiating a light to the detecting portion, and detecting a light~~  
~~from the fluorescence labeled sample;~~  
~~a buffer container capable of soaking the sample injecting end portions of capillaries~~  
~~and the tubular electrodes in a buffer, and;~~

~~a power supply capable of applying a voltage to an electricity passage from the connection plate to the detecting portion via the sample injection end portion and the buffer;~~

the insulating member covers a conductive portion including a connecting portion between the conductive connection plate and the tubular electrodes in collaboration with the insulating holder and electrically insulates the connecting portion from the other portions; and

~~wherein the connection plate, the insulated holder and the cover the insulated holder, the insulating member and the tubular electrodes are substantially closely arranged without gaps among these elements.~~

6. (Currently amended) The electrophoresis apparatus according to claim 5, wherein a filling material is applied to a gap between the insulated holder and conductive connection plate ~~of the load header~~ and/or to a gap between the conductive connection plate and [[cover]] insulating member.
7. (Currently amended) The electrophoresis apparatus according to claim 6, wherein the filling material includes inorganic powders or metal powders and has higher heat conductance than the air.
8. (Currently amended) The electrophoresis apparatus according to claim 7, wherein a conductive resin is substituted for the conductive connection plate within the load header to electrically connect the tubular electrodes with each other ~~and the holder, cover and tubular electrodes are closely arranged without allowing substantial formation of gaps.~~